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## The Santa Cruz Song Sparrow, with Notes on the Salt Marsh Song Sparrow.

BY JOSEPH GRINNELL.

### *Melospiza melodia santæcrucis* new subspecies.

*Subsp. Char.*—Relationship apparently nearest to *Melospiza melodia cooperi*, from which it differs in smaller size, in much narrower and weaker bill, and in the greater extent and intensity of the brown markings.

*Type*—♂ ad., No. 4292, Coll. J. G.; San Francisquito Creek, near Palo Alto, California; June 2, 1900; collected by J. Grinnell.

*Coloration*—Feathers on top of the head with narrow sooty streaks, broadly edged with chestnut; narrow median crown-stripe drab gray; feathers of mantle, broadly streaked with sooty and laterally margined with hazel and clay color. Wing-coverts, secondaries and tail feathers broadly edged with bright hazel. Postocular and rictal stripes, chiefly hazel. Superciliary stripe, drab gray. Breast and sides narrowly and sparsely streaked with sooty, the streaks running forward into well-defined maxillary stripes; most of these blackish markings are bordered narrowly with bright hazel. Flanks and crissum clay color, streaked with sooty sepia. Rest of under parts pure white.

*Range*—Along the fresh-water streams heading in the Santa Cruz Mountain Region, from San Francisco south to Monterey Bay.

*Measurements*—The following are the average measurements in inches of all the adult skins available of the four southern coast races of *Melospiza melodia*.

Subspecies.	Locality.	Skins.	Wing.	Tail.	Culmen.	Depth of Bill	Skins.	Wing.	Tail.	Culmen.	Depth of Bill
<i>cooperi</i>	{ Pasadena and vicinity	15 ♂ ♂	2.47	2.81	.47	.28	6 ♀ ♀	2.33	2.64	.45	.27
<i>santæcrucis</i>	{ Fresh-water streams P. A.	17 ♂ ♂	2.41	2.66	.45	.25	11 ♀ ♀	2.31	2.58	.45	.25
<i>pusillula</i>	{ Salt marshes S.F. Bay near Palo Alto.	20 ♂ ♂	2.28	2.46	.44	.24	15 ♀ ♀	2.18	2.36	.43	.23
<i>samuelis</i>	{ Salt marshes St. Vincent, Marin Co.	3 ♂ ♂	2.28	2.50	.43	.23	2 ♀ ♀	2.15	2.37	.43	.23

REMARKS—This is another case serving to give the fauna of the Santa Cruz Mountain Region an insular complexion. The Song Sparrows from that vicinity have been variously referred to *samuelis* and *heermanni*, but upon comparison with either of these the distinctions are readily perceived. In the neighborhood of Palo Alto the habitats of *santæcrucis* and *pusillula* are immediately adjoining. San Francisquito Creek at its mouth forms a slightly elevated delta sloping away gently into the surrounding salt marsh. Santa Cruz Song Sparrows are abundant and constant residents from the source of this stream in the Sierra Morena, to the final limit of the willows at its mouth. At this latter point we have the interesting problem of two "subspecies" *breeding* literally within a stone's-throw of each other. I have in mind a particular area near the foot of the Embarcadero Road, where a salt slough, its banks matted with *Salicornia*, winds along a willow thicket. Here on May 11, and on several previous occasions throughout the year, I shot typical specimens of both *pusillula* and *santæcrucis* within a few yards of each other, but I have never found either one in the habitat of the other. The full-fledged young of both forms, which are as easily distinguishable as the adults, were secured in numbers, but those of *santæcrucis* always in the willows of the creek and the weed-patches adjoining, while those of *pusillula* invariably came from the *Salicornia* beds. Briefly, I have no evidence whatever that *pusillula* and *santæcrucis* interbreed. The latter, however, is obviously in geographical continuity with *cooperi* to the south, and probably with the still larger *heermanni* of the Sacramento-San Joaquin Basin. But what has been the derivation of the Salt Marsh Song Sparrow? I have no material whatever to show that either of the small marsh forms, *samuelis* and *pusillula*, intergrades with

*heermanni*. If geographical intergradation still exists between them, I should expect to trace it among the Song Sparrows occupying the brackish tide marshes where the San Joaquin and Sacramento Rivers flow into the head of San Francisco Bay. But such material is as yet inaccessible to me. Skins from the salt marshes on the north side of the Bay (St. Vincent, Marin Co.) agree exactly with Baird's description of *samuelis*. As the type locality, Petaluma, is within 5 miles of tide water, it seems reasonable to suppose that the type was a tide-land bird. So far, I have failed to learn of a yellow-bellied Song Sparrow being obtained on the north side of the Bay. We are, therefore, to suppose that the Bay forms a barrier between *samuelis* on the north and *pusillula* on the south. The yellowness of the under parts is the most striking character of *pusillula*, and the great majority of my specimens have this character well pronounced. But I have a few skins from the salt marshes near Palo Alto, taken along with yellow examples, which are scarcely or not at all yellow beneath. These closely resemble *samuelis*, but are not so broadly streaked with black dorsally, and the general tone is ashier. Such birds seem to me properly considered as individual variants of *pusillula*; for they are exactly like the more or less yellow examples in every other respect. It has been suggested that Baird's *gouldi* was one of these white-bellied varieties of *pusillula*. This might be decided by a comparison with the type. Some ♀♀ of *pusillula* have the wing 2.10, though this is rather below the average. Perhaps, in view of the above evidence, some would prefer to rank *pusillula* as a species; but its relationship seems to be best expressed by the trinomial.

I have no material from California north of Marin County. Scores of skins are needed from almost every valley in California before we can hope to properly classify the various local races of the Song Sparrow. Although so much alike, they appeal to one with all the more interest; for a study of two slightly differentiated races will certainly give us a clearer insight into the manner and causes of the evolution of species, than if we gave attention exclusively to the completely separated forms.



### Two Years With Mexican Birds. III. Some Plantation Birds.

BY E. H. SKINNER.

**G**RAY'S ROBIN (*Merula grayi*) during his stay in the vicinity of Tapachula is one of the commonest varieties. They are present in large numbers late in the winter and spring and almost entirely disappear in summer. The coffee plantations with a heavy undergrowth of coffee shaded by larger trees are the favorite resorts of these birds, very few being found in the deep woods or in pastures. In December a very few arrive and we are made aware of their presence by the lovely song which is occasionally heard, the Mexican Zenzontli being famous for his minstrelsy.

By the middle of February the birds have all arrived, being scattered all

over the cafetal, but not going in flocks. Towards evening when the sun comes out after an afternoon shower everything is inexpressibly bright and fresh and the robins seem to appreciate it, for at such times I have heard as many as fifty birds singing as if their lives depended upon it. Besides their song they have a little whistle which is almost exactly like the last seven notes of the familiar air, 'You Can't Play in my Yard', and another guttural note "chuck-chuck", which, by the way, is their Indian name.

The breeding season commences in April and continues into July. I have taken fresh eggs between April 20 and July 11. The nest is a coarse affair